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BEFORE THE BOARD OF PATENT APPEALS AND INTERFERENCES

Application Number: 10/532,279
Filing Date: April 21, 2005
Appellant(s): HERMELING ET AL.

Marshall, Gerstein & Borun
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 11/24/2008 appealing from the Office action mailed 5/28/2008.

(1) Real Party in Interest

A statement identifying by name the real party in interest is contained in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The statement of the status of claims contained in the brief is correct.

(4) Status of Amendments After Final

The appellant's statement of the status of amendments after final rejection contained in the brief is correct.

(5) Summary of Claimed Subject Matter

The summary of claimed subject matter contained in the brief is correct.

(6) Grounds of Rejection to be Reviewed on Appeal

The appellant's statement of the grounds of rejection to be reviewed on appeal is correct.

(7) Claims Appendix

The copy of the appealed claims contained in the Appendix to the brief is correct.

(8) Evidence Relied Upon

WO 01/56625	Whitemore	08-2001
4,186,165	Aberson	01-1980

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

1. **Claim 1-11, 13-18, and 21-24 stand rejected under 35 U.S.C.103(a) as being unpatentable over Whitmore (WO 01/56625) in view of Aberson et al (US 4,186,165).**

Whitmore teaches absorbent articles and processes for making absorbent articles (ABST). Whitmore teaches a process wherein a superabsorbent monomer, superabsorbent polymer particles, water and initiator are a sprayed onto a fibrous web to form an absorbent article (pg. 3, lines 17-30). This crosslinking process is considered by Examiner to meet in-situ polymerization as claimed. Whitmore teaches methods of bonding fibrous webs are known to those skilled in the art and include thermal bonding, point bonding, powder bonding, ultrasonic bonding, chemical bonding, mechanical entanglement and the like (pg 17, lines 25-35). Whitmore teaches pressing the web or compression of the web one or more times during the construction or a disposable article such as a diaper (pg. 26, lines 31-36). Whitmore teaches preparing the web sample by compressing the fabrics in a Carver Laboratory Press Model #2697 at a top platen heated to 50°C and 7000 psi (5.5 bar) in order to prepare the fabric for measuring the FSEV (pg. 31, lines 33-39). As to claims 1-5, and 21, Whitmore differs from the current application and does not teach a pressing temperature of not less than 60°C, 70°C, and 80°C and Whitmore does not teach compression pressure greater than 5.5 bar.

Whitmore does not teach dimensional stability, however WO'625 teaches that "certain web materials are subjected to compression at one or more times during the construction" and further teaches that "after the web material has been compressed, there is a tendency for the fibers to relax, and expand somewhat thereby increasing the thickness of the web. However, this relaxation phenomenon is much less pronounced in articles prepared in accordance with the present invention which tend to remain stably in a compact state until subjected to an insult of fluid" (page 26, lines 31-41). When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § § 2112- 2112.02

Aberson teaches a method of producing a bonded layer that is formed in a panel of fluffed wood pulp fibers having particulate hydrocolloid material distributed therein wherein the panel is compressed at a suitable pressure and temperature (ABST). Aberson teaches pressure can be produced by platens, calendar rolls, or other means. Aberson teaches by suitably selecting the pressure and the temperature of the compression, an integral, densified, compacted porous, absorbent fibrous layer or region is formed in the panel having relatively high cohesive strength, relatively good capillarity, relatively good shape and volume stability and relatively high fluid retention (col. 2, lines 8-15). Aberson teaches platen temperatures of 80°F to 210°F (col. 2, lines 43-46) wherein one platen has a higher temperature that the other. Aberson teaches

temperatures of 170°F to 210°F (77-99°C) produce the strongest densified bonded layer. Aberson teaches compression pressures in a range of 2 kg/cm^2 to 15 kg/cm^2 (equivalent to 2 bar – 14.7 bar). Aberson refers to this process as a heat induced densified bonded layer (col. 2, lines 47-50). Aberson teaches when compaction was carried out at an elevated temperature changes in pressure significantly effected the formation of the densified bonded layer. However changes in compaction pressure had little effect when carried out at room temperature (col. 7, lines 28-35).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to optimize the process temperature and pressures when producing an absorbent panel motivated by Aberson's teachings that the combination of heat and pressure provides better properties for cohesive strength, fluid retention, shape and volume stability and capillary action that are required in an absorbent panel.

As to the claimed properties that the material has an increase in thickness 60 days after compression is less than 100% based on the thickness directly after compression. Whitmore in view of Aberson teaches the claimed structure and is produced of a process that substantially comprises every limitation of the disclosed process. When a product claim contains a property or structure that appears to be induced by process steps, the claim can be rejected as being anticipated by or in the alternative, obvious over a reference that discloses product made by a process that substantially comprises every limitation of the disclosed process.

As to claims 6-8, Whitmore differs from the current application and does not teach a material that expands not less than 5-fold and not less than 10 fold in one

dimension and by less than 20% in the other two dimensions on the addition of water. When the reference discloses all the limitations of a claim except a property or function, and the examiner cannot determine whether or not the reference inherently possesses properties which anticipate or render obvious the claimed invention the examiner has basis for shifting the burden of proof to applicant as in In re Fitzgerald, 619 F.2d 67, 205 USPQ 594 (CCPA 1980). See MPEP § 2112- 2112.02

As to claim 9, Whitmore teaches a web density of 0.005 to about 0.12 gm/cm.

As to claims 10 and 11, Whitmore teaches a Free Swell Capacity (FSC) that is measure of the ratio of teabag to retention in 0.9% NaCl (pg. 31, lines 1-31). Whitmore presents results of FCS in Table 2, page 21 wherein the same FSC is 5101 and 5669 compared to 605 of the untreated fabric.

As to claims 13-16, Whitmore teaches the performance properties of FSEV and EVUL and teaches the methods or measuring these properties (pg 26, lines 15-20). Whitmore teaches the untreated and treated (pressed and heated fabric) and the effect on FSEV and EVUL in tables 3 and 4. Whitmore teaches that the change in FSEV and EVUL after 60 secs and 2 minutes is at least double and 60% higher than that of an uncompressed material (pg. 33 and pg 34).

As to claim 17, Whitmore teaches an AAP at 0.7 psi in 0.9% NaCl solution is greater than 5 g/g.

As to claims 23 and 24, Whitmore teaches methods for absorbing fluids, on page 30 and 31. Whitmore describes methods for measuring absorption of fluids under load (AUL) and free swell capacity absorption.

2. **Claim 22-24 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Whitmore (WO 01/56625) in view of Soerens (US 7115321).** Whitmore does not teach a method of absorbing water vapor into the absorbent material of claim 1. Soerens teaches an absorbent binder coating system that can be applied to various substrates including absorbent garments, laminates, medical devices and packaging materials (ABST). Soerens teaches an absorbent material that absorbs water vapor, water and bodily fluids (col. 7, lines 27-32, 48-55). Soerens teaches that the water vapor is absorbed at 22°C and 50% relative humidity at a rate of at least 4 weight % per hour (col. 16, lines 55-64).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to determine a method of absorbing water vapor as taught by Soerens in the invention of Whitmore motivated to absorb water vapor.

(10) Response to Argument

VIII. C. Rejection of claims 1-11, 13-18 and 21-24 under 35 USC 103(a) as being obvious over Whitmore et al WO 01/56625 (WO'625) in view of Aberson et al US 4,186,165 ('165).

1. Appellants arguments on the disclosure of Whitmore et al WO 01/56625 (WO'625). Appellants argue that WO'625 fails to teach a pressing temperature of not less than 60°C or a pressure greater than 5.5 bar. Appellant's claim 1 recites the

limitation of a pressure not less than 3.0 bar and response to arguments will be directed at the claimed pressure of 3.0 bar.

Appellants argue that the disclosure contains no temperature and no pressure used in a compression step. While the disclosure of WO'625 teaches that a sample is placed in a Carver Laboratory Press at 7000 psi (5.5 bar) and heated to 50°C, Appellants argue that this disclosure pertaining to a method of testing for Free Swell Expansion Volume (FSEV) and not a process of making the SAP-containing web. WO '625 discloses that compression is known to improve the properties of the web and specifically that compression in combination with the in situ SAP material reduces the phenomenon of relaxation.

While, WO '625 notes the use of a 50°C platen press as a test method and not a production method, the secondary reference to Aberson '165 specifically teaches that temperature can improve the web material. Aberson is directed to the same field of endeavor of an absorbent nonwoven product useful for personal hygiene products. Aberson teaches incorporating a SAP to improve absorbency. Aberson teaches a heat-induced densified bonded layer (col. 6, lines 37-38). Aberson teaches that when forming the heat-induced densified bonded layer the impact of changes in pressure is significantly affected when applying pressure at elevated temperatures. For example, changing the pressure while maintaining the nonwoven at room temperature created little effect in producing a bonded web. Aberson teaches pressing pressures in a range of 2 kg/cm^2 to 15 kg/cm^2 (equivalent to 2 bar – 14.7 bar). Aberson teaches

temperatures of 170°F to 210°F (77-99°C) produce the strongest densified bonded layer.

Aberson presents a finding that one of ordinary skill in the art could have employed the technique of bonding a nonwoven web with an SAP at a higher temperature and pressure in the claimed range so that the web has densified or compacted structure and is bonded to incorporate the SAP. Therefore it would have been obvious to combine the teachings of Aberson that state that an increase in temperature and pressure produces a superior nonwoven batt with the materials and structure of WO'625 and the results of the combination would have been predictable.

2. Appellants arguments on the disclosure of Aberson et al '165.

Appellants argue that there is no polymerization step disclosed or used in the '165 patent process and the '165 patent teaches an alternative and different superabsorbent-containing fabric from that of WO '625. Appellant's claim 1 recites the limitation that the "material is formed a superabsorbent polymer and fibers obtained *in situ* polymerization". WO '625 is relied upon to teach the specific feature that it is known in the art to produce a material with an SAP polymer in a fibrous web wherein the SAP polymer is formed *in situ*.

Further, whether or not the SAP is formed *in situ* or bonded to the web would not change the structure or materials of the nonwoven product formed as process limitations in claims are not limited to the manipulations of the recited steps, only the structure implied by the steps. "In re Thorpe , 227 USPQ 964, 966 (Fed. Cir. 1985).

Where the claimed and prior art products are identical or substantially identical in structure or composition, or are produced by identical or substantially identical processes, a *prima facie* case of either anticipation or obviousness has been established. *In re Best,* 562 F.2d 1252, 1255, 195 USPQ 430, 433 (CCPA 1977). "When the PTO shows a sound basis for believing that the products of the applicant and the prior art are the same, the applicant has the burden of showing that they are not." *In re Spada,* 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Therefore, the *prima facie* case can be rebutted by evidence showing that the prior art products do not necessarily possess the characteristics of the claimed product. *In re Best,* 562 F.2d at 1255, 195 USPQ at 433. See also *Titanium Metals Corp. v. Banner*, 778 F.2d 775, 227 USPQ 773 (Fed. Cir. 1985)

As Appellants have merely claimed a superabsorbent polymer, one of ordinary skill in the art would not be able to determine if the claimed superabsorbent polymer would result in a different structure or material from the superabsorbent polymer claimed by Aberson ‘165. As claimed, the superabsorbent polymer of Aberson ‘165 and the superabsorbent polymer of WO '625 would be equated. The SAP described in Applicant’s specification as an in situ material known in the art for example as taught in WO ‘625 (Appellant’s specification pg. 1, lines 23-24). Aberson teaches that the process of producing a bonded web with an SAP provides the heat and pressure that enables an SAP to be fixed in place through bonding or mechanical entrapment (col. 6, lines 3-9).

Appellants argue that Aberson ‘165 is teaching heating using a temperature differential, wherein the moisture is driven from a surface of higher temperature to a surface of lower temperature to increase bonding and entanglement and density of the cooler surface and that the bonding is achieved by the "inherent moisture" present in the hydrocolloid as opposed to in situ polymerization of monomers as in WO ‘625. WO ‘625 produces the in situ SAP by forming a sprayable blend comprising one or more

superabsorbent forming monomers, superabsorbent polymer particles, water and one or more initiators. Therefore water is present in the invention of WO '625 as well as the current application and it is reasonable to presume that water would react to form the bonded SAP and fibrous web in the current application as it reacts and bonds as described by Aberson '165. Appellants are not claiming a specific process, the claims recite a temperature above 60° C and a pressure above 3 bar. Aberson teaches these process parameters. WO '625 is teaching a fibrous web with an SAP formed by in situ polymerization and that is equivalent to the limitations recited in claim 1.

3. Rejection of claims 1-5, 9-11, 13-18 and 22-24 as being obvious over WO '625 in view of the Aberson '165. Appellants argue that the combination of WO '625 and the '165 patent provides no teaching or suggestion that in situ polymerization and pressing and heating, as claimed, can improve dimensional stability and absorption properties and that the Examiner is relying on hindsight reasoning that the claimed combination is obvious.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a

reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Appellant's arguments are not persuasive. WO ' 625 teaches the equivalent materials and process as the claimed invention with the exception of one element, a pressing temperature above 50°C. The claimed pressing temperature of the Appellant's invention is 60°C or greater. Appellant presents data that compares WO '625, called "Comparative Material" and states that the sample was compressed under the conditions described by WO '625, 5.5 bar and 50°C. The results of the WO '625 thickness and expansion after 60 days is shown below. Examiner agrees that the WO '625 expands more than 100% and does not meet Appellant's claimed property as shown in the table below.

Sample [mm]	Thickness directly after compression [mm]	Thickness after 60 days
1	0.8	2.4
2	0.7	1.8
3	0.7	1.9
4	0.8	2.3

The Appellant has failed to present evidence that the claimed product produced at the claimed temperature and pressure has a thickness of less than 100% of the original thickness. It is the Appellant's burden to show that the claimed process parameters result in a product that relaxes to a thickness after 60 days of less than 100% and that the properties are not inherent in the disclosures of WO '625 and '165. However, **Appellant's specification does not show any expansion volume evidence at or near the claimed 60°C and 3 bar process parameters which would**

lead one of ordinary skill in the art to choose 60°C and 3 bar versus 50°C and 5.5 bar of WO '625. While Appellant's specification presents evidence to show differences between WO '625 and the current invention (presented in the two tables below), the comparison:

(1) does not present evidence of the property of thickness after 60 days and

(2) does not show that the material is produced at temperatures and pressures at the claimed 60°C and 3 bar.

The Appellant's specification presents data on FSEV (free swell expansion volume) and EVUL (expansion volume under load) on page 10 where the samples are produced at pressures of 5, 10, and 80 bar and 100°C and 150°C. This data does not support the process parameters claimed of 60°C and 3 bar and does not show the thickness change after 60 days. Appellant has failed to show the criticality of the claimed process parameters.

Time	5bar 100°C	10bar 100°C	80bar 100°C	5bar 150°C	10bar 150°C	80bar 150°C	Comparison
10 sec	2.4 ml	2.4 ml	2.2 ml	1.3 ml	2.2 ml	0.1 ml	2.4 ml
30 sec	6.8 ml	7.1 ml	7.5 ml	5.7 ml	6.4 ml	0.7 ml	5.8 ml
60 sec	8.7 ml	9.3 ml	10.1 ml	9.0 ml	9.3 ml	4.2 ml	7.5 ml
120 sec	9.8 ml	10.5 ml	11.1 ml	10.7 ml	10.8 ml	10.1 ml	8.7 ml
300 sec	10.4 ml	11.3 ml	11.8 ml	11.5 ml	11.6 ml	11.5 ml	9.5 ml
600 sec	10.6 ml	11.5 ml	12.0 ml	11.7 ml	11.8 ml	11.8 ml	9.9 ml

The data show that the FSEV values of the material according to the present invention (with the exception of 80 bar/150°C) are distinctly higher than those of the compressed material described in WO 01 / 55625 after just 30-60 seconds. The data also show that the final value is almost reached after about 300 seconds.

Determination of expansion volume under load (EVUL) at 0.5 psi

Time	5bar 100°C	10bar 100°C	80bar 100°C	5bar 150°C	10bar 150°C	80bar 150°C	Comparison
10 sec	0.9 ml	0.4 ml	1.2 ml	0.6 ml	0.8 ml	0.1 ml	0.1 ml
30 sec	3.0 ml	2.2 ml	3.7 ml	3.0 ml	3.1 ml	1.4 ml	1.0 ml
60 sec	4.4 ml	3.6 ml	5.1 ml	4.7 ml	4.7 ml	4.2 ml	2.1 ml
120 sec	5.0 ml	4.6 ml	5.8 ml	6.0 ml	5.8 ml	5.8 ml	3.1 ml
300 sec	5.6 ml	5.3 ml	6.1 ml	6.6 ml	6.4 ml	6.4 ml	3.8 ml
600 sec	5.8 ml	5.7 ml	6.3 ml	6.9 ml	6.6 ml	6.4 ml	3.8 ml

Appellants specification presents further evidence that the inventive examples 1-5 were all compressed at temperatures of 100°C and 150°C and 160 bar, 80 bar and 10 bar (Applicant's specification pages 12-14). However none of the data presented in the Appellant's specification encompasses the claimed range and therefore does not present evidence that an unexpected or unpredictable result is achieved by the claimed range of the invention of claim 1.

Appellant's argue that the WO '625 temperature and pressure are selected to mimic the typical use of a diaper incorporating the absorbent material. The test method parameters of 50°C and 5.5 bar would not mimic the parameters of typical use as a person would have a temperature of approximately 36°C and a much lower pressure applied as body weight.

Appellants argue that the data presented for the FSEV values (with the exception of 80 bar/150°C (Table shown above), show an improvement over WO '625. As noted above, the data presented does not encompass the claimed range of 60°C and 3.0 bar and does not show the criticality of the claimed range over the reference to WO '625.

Appellant argues that as WO ‘625 does not teach dimensional stability and does not teach the claimed process parameters, the Examiner has failed to make a case for inherency. And the Examiner must provide a basis in fact and/or technical reasoning to reasonably support the determination that the allegedly inherent characteristics necessarily flows form the teachings of the applied art. Examiner disagrees that WO '625 does not teach dimensional stability. WO ‘625 makes reference to compression of webs (page 23, line 15; page 26, lines 5 and 36) and teaches FSEV and EVUL are impacted by compression. Further, WO ‘625 teaches that due to the process of preparing the web of WO ‘625, the relaxation phenomenon is much less pronounced (page 26, lines 31-41).

While WO ‘625 does not teach increasing the temperature above 50°C, one of ordinary skill in the art would understand that it is a basic technical principle that applying heat and pressure would serve to compress and bond a web. One of ordinary skill in the art would also know that the higher the temperature, the more the fibers would melt and bond and remain compressed. Aberson ‘165 teaches that increased temperature has more impact on densifying the web than increasing the pressure. While Aberson '165 does not explicitly teach that the web remains compressed and does not teach the property measured where there is less than 100% relaxation after 60 days, Aberson '165 is teaching densifying and bonding the web to produce a thinner web and it is presumed that web is stable.

Appellants argue that ‘165 also fails to teach dimensional stability and is directed to an entirely different type of web material. Appellant’s arguments are not

commensurate with the scope of the claims. Claim 1 recites an in situ SAP polymer and fibers and '165 meets both of these material and structural limitations with the exception that the SAP of Aberson is not formed in situ. As noted above, an SAP polymer whether formed prior to incorporating into the web or formed in the web would have the same structure and composition and therefore would be equated. Examiner disagrees with the statements that Claim 1 and '165 are not produced of an entirely different type of web material. As the material and structural limitations are met as well as the process limitations, it is presumed that the web would inherently possess the property of dimensional stability.

Appellants argue that Examiner's statements regarding time as a factor in the present invention are incorrect and that time is not a factor and the FSEV and EVUL data referred to by the Examiner show the amount of liquid absorbed over time. Examiner was stating that if evidence is to be used to support that the claimed properties are unexpected, then the evidence should be measured by the same testing method, including the variable of time. As the evidence presented in the specification does not present data to support the criticality of the claimed range over the prior art, the variable of time is not relevant in this argument.

4. Rejection of claims 6 and 8 as being obvious over WO '625 in view of the Aberson '165. Claims 6 recites the limitation that the material of claim 1 expands not less than 5 fold in one direction and by less than 20% in the other two dimensions on addition of water. Claims 8 recites the limitation that the material of claim 1 expands not

less than 10 fold in one direction and by less than 10% in the other two dimensions on addition of water. Appellant's arguments are not persuasive. Appellant states that the claimed absorbent materials show substantial expansion factor of 11.2 to 32.5 in the z-direction. Appellant states that Comparative Examples 2, 3, 5 and 6 were prepared very similarly to the pressed web WO '625 did not expand in the z direction, i.e. expansion factor of 1.1 to 4.6.

As to claim 6, expansion of 4.6 is nearly 5 fold and one of ordinary skill in the art could have employed the technique of applying heat and pressure motivated to improve material absorption properties as taught by the combination of WO '625 and Aberson '165.

As to claim 8, failed to overcome the obviousness rejection and present a showing of unexpected results at the claimed process parameters. Examples 1-11, are produced at process parameters well above 60°C and 3 bar of claim 1. Therefore it is unclear whether the invention produced at the claimed process parameters would be different than the prior art of WO '625. In addition, the data does not present evidence that results are unexpected over the combination of WO '625 and '165.

5. Rejection of claims 7 as being obvious over WO '625 in view of the Aberson '165. Claim 7 recites a material formed from a superabsorbent polymer and fibers that expands not less than 5-fold in one dimension and by less than 20% in the other two dimensions on addition of water. Appellant states that claim 7 neither recites or relies on process parameters such as pressing temperature and pressure therefore

the process parameters recited in WO '625 and in the '165 patent are not relevant, WO '625 does not inherently possess the features of the materials recited in claim 7 and the unexpected and unpredictable results provided by the presently claimed materials render claim 7 nonobvious over the combination of WO '625 and '165.

A material can inherently possess the claimed properties if the material and structure of the claimed invention is taught or anticipated by the prior art. WO '625 teaches a material formed from an SAP and fibers. WO '625 measures the properties of FSEV and EVUL but does not measure the property of an expansion dimension in an x, y or z direction. However as WO '625 teaches the same materials and structure, it is presumed that the property of expansion dimension would be inherent to the structure of WO '625. The burden of proof is on the Applicant to show that the claimed invention produces unexpected results. A comparison of WO '625 to the claimed invention is made with respect to FSEV, EVUL and expansion factor in the z-axis. FSEV and EVUL determine the volume of liquid absorbed. Expansion factor in the z-axis is a relative measure of expansion. Comparative Examples present results that the expansion factor in the z-axis is 4.6 and 4.6 is approximately 5 and would be obvious over Applicants limitation of 5-fold in claim 7.

6. Rejection of claims 21 as being obvious over WO '625 in view of the Aberson '165. Claim 21 describes the process for producing the compressed material comprising an SAP, obtainable by in situ polymerization of the SAP fiber by pressing at about 60°C and about 3 bar. Appellants argue that process claim 21 recites a particular

temperature and pressure that differ from the pressing temperature and pressure disclosed in WO '625. Appellants argue that the Examiner's arguments that “about 60°C” and “about 3 bar” are equivalent to the process parameters in WO ‘625 and can not be interpreted this broadly. It is the burden of the Applicant to show that “about 60°C” and is not equivalent to 50°C and that the criticality of this range can produce an unexpected result. There is no specific evidence in the Appellant's specification for a material produced at “about 60°C” in combination with “about 3 bar”. The evidence presented in the specification shows process parameters of 100°C and 150°C and 5, 10, 80 and 160 bar. The secondary reference to '165 teaches process parameters in a range of 2 bar – 14.7 bar and platen temperatures of 77°C and 99°C. These parameters are also equivalent to “about 60°C” and “about 3 bar”. In addition, as the combination of the first and second references encompass the claimed range it would have been obvious to select a temperature of “about 60°C” based on the teachings of WO '625 and Aberson '165.

Appellants argue that the secondary reference to Aberson specifically discloses that increasing pressing temperature decreases density and that persons skilled in the art therefore would not consider pressing at an increased temperature because a less dense absorbent material would be expected and the art wishes to avoid a less dense material. Examiner respectfully disagrees with this teaching from Aberson. Aberson ‘165 teaches densifying the web through pressure and heat as Aberson refers to invention as a “heat- induced densified bond layer” which would increase the density of the web and make the web thinner. Aberson teaches that the platens have

temperatures of 77°C and 99°C. As WO '625 teaches platen temperature of 50°C and '165 teaches 77°C and 99°C, the combination would lead one of ordinary skill in the art to select a temperature of about 60°C. WO '625 and '165 present findings that one of ordinary skill in the art could have selected the known process parameters with a reasonable expectation of success in producing a SAP incorporated fibrous web for use as a personal hygiene article.

7. Response to Examiner's answers to Applicant's arguments.

Appellants have responded to the Examiners arguments in the Final Office Action of 5/28/2008. Appellants argue that the disclosure of WO '625 does not teach a process for producing the web using pressure and temperature but instead the process of compressing the web a 50°C and 5.5 bar is intended for obtaining a test measurement. Appellants also state that objective data has been presented in their specification to support the claims. To summarize what has been previously noted, WO '625 provides a teaching that using pressure and temperature is a known. WO '625 structure and materials are equivalent to the current invention. WO '625 process parameters are not substantially different than the claimed invention. WO '625 also teaches the combination of the in situ SAP and the compressing the web reduces the relaxation phenomena. Objective evidence has not provided by Appellant that shows that the claimed process conditions produce a material that has an unexpected result.

Appellants state that the secondary reference to Aberson '165 is directed to an entirely different type of absorbent web. Aberson is not relied on for teaching an in situ

SAP polymer. Aberson is relied upon for teaching that a fibrous web with an SAP polymer can be produced by a process of compression and temperature and this process improves bonds the SAP into the web and bonds the fibers of the web. And while Appellants argue that the SAP polymer of Aberson is not equivalent to the in situ SAP polymer the claimed fibrous web, it should be noted that even though product-by-process claims are limited by and defined by the process, determination of patentability is based on the product itself.

Appellants argue that the process of Aberson is one using a differential temperature such that the coolest region of the pressed web is the most dense. The coolest region of the Aberson web is 77°C, and in the claimed range of greater than 60°C. The disclosure of Aberson is relied upon to teach that the impact of increasing temperature during compression has a greater effect on the final structure of the web than an increase in pressure at ambient temperature.

As WO '165 teaches the equivalent in situ SAP polymer in a fibrous web, and therefore the structure and materials of the claimed invention are known. Aberson presents a finding that the process parameters are also known. Further, one of ordinary skill in the art would know that applying pressure and temperature to a web with an SAP polymer and monomer would melt, react and bond the web into a compressed and stable state.

D. Rejection of Claims 22-24 under 35 USC 103 as being obvious over WO '625 in view of the '165 patent and Soerens et al (US 7,115,321).

Appellants state that Examiner summarily maintained a rejection of claims 22-24 because the claims have not been amended and therefore the previous Office Action rejection is maintained. Claims 22-24 were not amended, claim 1 was amended. As the rejection over claim 1 was revised, the dependent claims would also be rejected in view of the rejected claim from which they are dependent.

Appellant's state that claims 23 and 24 are not directed to absorbing water vapor but to absorbing aqueous fluid. Soerens teaches an absorbent material that absorbs water vapor, water and bodily fluids (col. 7, lines 27-32, 48-55). This reference to Soerens includes aqueous water and aqueous fluids as well as water vapor.

Appellants argue that Soerens is directed to an absorbent binder system that is applied to a substrate and the system crosslinks on the substrate to form a laminate. Soerens is relied upon for teaching a method of absorbing water vapor and aqueous fluid and Soerens is not relied upon for teaching the structure and materials of the claimed invention. However, as Appellants invention is comprised of a sprayed on superabsorbent polymer, monomer, crosslinking agent and water and Soerens is directed to an absorbent binder system (polymer) that is applied to a substrate and the system crosslinks on the substrate to form a laminate both inventions are directed to the same field of endeavor as Soerens and WO '625.

Appellants argue that Soerens fails to overcome the deficiencies of WO '625 in view of '165. For reasons set forth in the above paragraphs, the rejection over WO '625 in view of '165 is maintained and Soerens presents a finding that methods of absorbing

water vapor and aqueous fluid are known in the art. One of ordinary skill in the art could have combined the known elements with a reasonable expectation of success.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/J. S./

Examiner, Art Unit 1794

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